TORQ Analysis of Team Assemblers to Solderers and Brazers

INPUT SECTION:

Transfer	Title	O*NET	Filters		
From Title:	Team Assemblers	51-2092.00	Abilities:	Importance LeveL: 50	Weight: 1
To Title:	Solderers and Brazers	51-4121.07	Skills:	Importance LeveL: 69	Weight: 1
Labor Market Area:	Maine Statewide		Knowledge:	Importance Level: 69	Weight: 1

OUTPUT SECTION:

Grand TORQ: 89

Ability TORQ		Skills TORQ		Knowledge TORQ	
Level	91	Level	88	Level	87

Gaps To Narrow if Possible

Ability	Level	Gap	Impt
Arm-Hand Steadiness	48	9	59
Near Vision	50	6	65
Manual Dexterity	46	5	62
Finger Dexterity	46	4	62
Control Precision	46	2	50

Upgrade These Skills

Skill	Level	Gap	Impt
Reading Comprehension	51	12	78
Quality Control Analysis	55	3	72
Learning Strategies	57	3	69

Knowledge to Add

Knowledge	Level	Gap	Impt
No Knowledge Upgrades Required!			

LEVEL and IMPT (IMPORTANCE) refer to the Target Solderers and Brazers. GAP refers to level difference between Team Assemblers and Solderers and Brazers.

ASK ANALYSIS

Ability Level Comparison - Abilities with importance scores over 50

Description	Team Assemblers	Solderers and Brazers	Importance
Near Vision	44	50	65
Manual Dexterity	41	46	62
Finger Dexterity	42	46	62
Oral Comprehension	51	46	59
Arm-Hand Steadiness	39	48	59
Oral Expression	48	44	56
Problem Sensitivity	41	37	53
Information Ordering	42	39	50
Control Precision	44	46	50

Skill Level Comparison - Abilities with importance scores over 69

Description	Team Assemblers	Solderers and Brazers	Importance
Reading Comprehension	39	51	78
Quality Control Analysis	52	55	72
Learning Strategies	54	57	69

Knowledge Level Comparison - Knowledge with importance scores over 69

Description	Team Assemblers	Solderers and Brazers	Importance

Experience & Education Comparison

Related Work Experience Comparison

Description	Team Assemblers	Solderers and Brazers
10+ years	0%	0%
8-10 years	0%	0%
6-8 years	0%	0%
4-6 years	0%	0%
2-4 years	4%	5%
1-2 years	6%	12%
6-12 months	10%	10%
3-6 months	2%	20%
1-3 months	6%	7%
0-1 month	17%	9%
None	50%	32%

Required Education Level Comparison

Description	Team Assemblers	Solderers and Brazers
Doctoral	0%	0%
Professional Degree	0%	0%
Post-Masters Cert	0%	0%
Master's Degree	0%	0%
Post-Bachelor Cert	0%	0%
Bachelors	0%	0%
AA or Equiv	0%	0%
Some College	1%	3%
Post-Secondary Certificate	11%	11%
High Scool Diploma or GED	63%	65%
No HSD or GED	22%	18%

Team Assemblers	Solderers and Brazers
Most Common Educational/Training Requirement:	
Moderate-term on-the-job training	Long-term on-the-job training
Job Zone Comparison	
2 - Job Zone Two: Some Preparation Needed	2 - Job Zone Two: Some Preparation Needed
Some previous work-related skill, knowledge, or experience may be helpful in these occupations, but usually is not needed. For example, a teller might benefit from experience working directly with the public, but an inexperienced person could still learn to be a teller with little difficulty.	Some previous work-related skill, knowledge, or experience may be helpful in these occupations, but usually is not needed. For example, a teller might benefit from experience working directly with the public, but an inexperienced person could still learn to be a teller with little difficulty.
These occupations usually require a high school diploma and may require some vocational training or job-related course work. In some cases, an associate's or bachelor's degree could be needed.	These occupations usually require a high school diploma and may require some vocational training or job-related course work. In some cases, an associate's or bachelor's degree could be needed.
Employees in these occupations need anywhere from a few months to one year of working with experienced employees.	Employees in these occupations need anywhere from a few months to one year of working with experienced employees.

Tasks

Team Assemblers	Solderers and Brazers
Core Tasks	Core Tasks

Generalized Work Activities:

- Handling and Moving Objects - Using hands and arms in handling, installing, positioning, and moving materials, and manipulating things.
- Controlling Machines and Processes - Using either control mechanisms or direct physical activity to operate machines or processes (not including computers or vehicles).
- Communicating with Supervisors, Peers, or Subordinates - Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.
- Inspecting Equipment, Structures, or Material - Inspecting equipment, structures, or materials to identify the cause of errors or other problems or defects.
- Identifying Objects, Actions, and Events - Identifying information by categorizing, estimating, recognizing differences or similarities, and detecting changes in circumstances or events.

Specific Tasks

Occupation Specific Tasks:

- Determine work assignments and procedures.
- Operate heavy equipment such as forklifts.
- Provide assistance in the production of wiring assemblies.
- Rotate through all the tasks required in a particular production process.
- Shovel and sweep work areas.

Detailed Tasks

Detailed Work Activities:

- confer with engineering, technical or manufacturing personnel
- direct and coordinate activities of workers or staff
- examine products or work to verify conformance to specifications
- fabricate, assemble, or disassemble manufactured products by hand
- perform safety inspections in manufacturing or industrial setting
- read work order, instructions, formulas, or processing charts
- use computers to enter, access or retrieve data
- use hand or power tools
- work as a team member

Technology - Examples

Computer aided design CAD software

Generalized Work Activities:

- Inspecting Equipment, Structures, or Material - Inspecting equipment, structures, or materials to identify the cause of errors or other problems or defects.
- Identifying Objects, Actions, and Events - Identifying information by categorizing, estimating, recognizing differences or similarities, and detecting changes in circumstances or events.
- Getting Information - Observing, receiving, and otherwise obtaining information from all relevant sources.
- Communicating with Supervisors, Peers, or Subordinates - Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.
- Evaluating Information to Determine Compliance with Standards - Using relevant information and individual judgment to determine whether events or processes comply with laws, regulations, or standards.

Specific Tasks

Occupation Specific Tasks:

- Adjust electric current and timing cycles of resistance welding machines to heat metals to bonding temperature.
- Align and clamp workpieces together, using rules, squares, or hand tools, or position items in fixtures, jigs, or vises.
- Brush flux onto joints of workpieces or dip braze rods into flux, to prevent oxidation of metal.
- Clean equipment parts, such as tips of soldering irons, using chemical solutions or cleaning compounds.
- Clean joints of workpieces with wire brushes or by dipping them into cleaning solutions.
- Clean workpieces to remove dirt and excess acid, using chemical solutions, files, wire brushes, or grinders.
- Connect hoses from torches to regulator valves and cylinders of oxygen and specified gas fuels.
- Cut carbon electrodes to specified sizes and shapes, using cutoff saws.
- Dip workpieces into molten solder, or place solder strips between seams and heat seams with irons, to bond items together.
- Examine seams for defects, and rework defective joints or broken parts.
- Grind, cut, buff, or bend edges of workpieces to be joined to ensure snug fit, using power grinders and hand tools.
- Guide torches and rods along joints of workpieces to heat them to brazing

- Computer aided design CAD software

Data base user interface and query software

- Data entry software

Office suite software

- Microsoft Office

Spreadsheet software

- Microsoft Excel
- Spreadsheet software

Word processing software

- Microsoft Word
- Word processing software

Tools - Examples

- Adjustable wrenches
- Bearing installation tools
- Bench vises
- Welding torches
- Dial calipers
- Metal chisels
- Dividers
- Burring tools
- Desktop computers
- Protective ear muffs
- Protective ear plugs
- Engine repair stands
- Fiber reinforced polymer FRP rollers
- Feeler gauges
- Hand files
- Torque angle meters
- Forklifts
- Arc welding equipment
- Dial indicators
- Vacuum bags
- Grinding machines
- Material guiding jigs

workpieces to heat them to brazing temperature, melt braze alloys, and bond workpieces together.

- Heat soldering irons or workpieces to specified temperatures for soldering, using gas flames or electric current.
- Melt and apply solder along adjoining edges of workpieces to solder joints, using soldering irons, gas torches, or electric-ultrasonic equipment.
- Melt and apply solder to fill holes, indentations, and seams of fabricated metal products, using soldering equipment.
- Melt and separate brazed or soldered joints to remove and straighten damaged or misaligned components, using hand torches, irons or furnaces.
- Place solder bars into containers, and turn knobs to specified positions to melt solder and regulate its temperature.
- Remove workpieces from fixtures, using tongs, and cool workpieces, using air or water.
- Remove workpieces from molten solder and hold parts together until color indicates that solder has set.
- Select torch tips, flux, and brazing alloys from data charts or work orders.
- Smooth soldered areas with alternate strokes of paddles and torches, leaving soldered sections slightly higher than surrounding areas for later filing.
- Sweat together workpieces coated with solder.
- Turn dials to set intensity and duration of ultrasonic impulses, according to work order specifications.
- Turn valves to start flow of gases, and light flames and adjust valves to obtain desired colors and sizes of flames.

Detailed Tasks

Detailed Work Activities:

- adjust welding equipment
- apply cleaning solvents
- apply flux to workpiece before soldering or brazing
- braze metal parts or components together
- clean or degrease weld, or parts to be welded or soldered
- examine products or work to verify conformance to specifications
- fabricate, assemble, or disassemble manufactured products by hand
- file, sand, grind, or polish metal or plastic objects
- identify properties of metals for repair or fabrication activities
- load or unload material or workpiece into machinery
- monitor the quantity of assembly output

- Claw hammers
- Hand clamps
- Heat guns
- Pin protrusion gauges
- Allen wrenches
- Power hoists
- Ring squeezers
- Hydraulic press frames
- Power wrenches
- Heating furnaces
- Threaded insert tools
- Hand jacks
- Heat lamps
- Ladders
- Lathes
- Transits
- Locking pliers
- End milling machines
- Plastic mallets
- Metal inert gas MIG welders
- Electrochemical etching devices
- Micrometers
- Computerized numerical control CNC metal-cutting machines
- Milling machines
- Needlenose pliers
- Nut drivers
- Paint application brushes
- Paint application rollers
- High-volume low-pressure HVLP spray guns
- Curing ovens
- Assembly robots
- Rotating mandrels

- move or fit heavy objects
- perform safety inspections in industrial, manufacturing or repair setting
- position, clamp or assemble workpiece prior to welding
- preheat metal before welding, brazing, or soldering
- read blueprints
- read production layouts
- read technical drawings
- read work order, instructions, formulas, or processing charts
- sharpen metal objects
- solder metal parts or components together
- understand technical operating, service or repair manuals
- use acetylene welding/cutting torch
- use braze-welding equipment
- use hand or power tools
- use soldering equipment

Technology - Examples

Analytical or scientific software

- Fred's Tip Cartridge Picker
- Value Analysis

Tools - Examples

- Pliers
- Wrenches
- Vises
- Oxyacetylene torches
- Deburring tools
- Desktop computers
- Files
- Brazing equipment
- Hammers
- Clamps
- Heating coils
- Lathes
- Notebook computers
- Jigs
- Potentiometers
- Power grinders

- Tube cutters
- Flame cutters
- Pneumatic drills
- First assembly jigs
- Power chippers
- Cordless drills
- Bench grinders
- Edge planers
- Belt sanders
- Cutoff saws
- Power drivers
- Anti-vibration gloves
- Protractors
- Pry bars
- Gear pullers
- Center punches
- Ratchets
- Line reamers
- Chopper guns
- Respirators
- Snap ring pliers
- Alligator jaw compression riveters
- Steel rules
- Safety glasses
- Scaffolding
- Straight screwdrivers
- Scribers
- Adhesive application robots
- Beverly shears
- Socket wrenches
- Soldering guns
- Spanner wrenches

- Cutoff saws
- Waterproof gloves
- Surface contact pyrometers
- Rulers
- Welding lenses
- Hacksaws
- Screwdrivers
- Scribers
- Shears
- Soldering irons
- Squares
- Tape measures
- Templates
- Tin snips
- Tongs
- Tube benders
- Utility knives
- Electrodes
- Welding shields
- Torch tips
- Wire brushes
- Cranes
- Drill presses

- Case wrenches
- Timing lights
- Layout squares
- Squeegees
- Bearing staking tools
- Measuring tapes
- Taps
- Drafting templates
- Tensiometers
- Fuel control wrenches
- Beading tools
- Crimping tools
- Lapping tools
- Tungsten inert gas TIG welding equipment
- Turnbuckles
- Radial drills
- Ultrasonic inspection equipment
- Trimming knives
- Vacuum pumps
- Wedges
- Tack welding equipment
- Welding hoods
- Welding robots
- Spot welding equipment
- Cable cutters
- Jib cranes
- Brakes

Labor Market Comparison

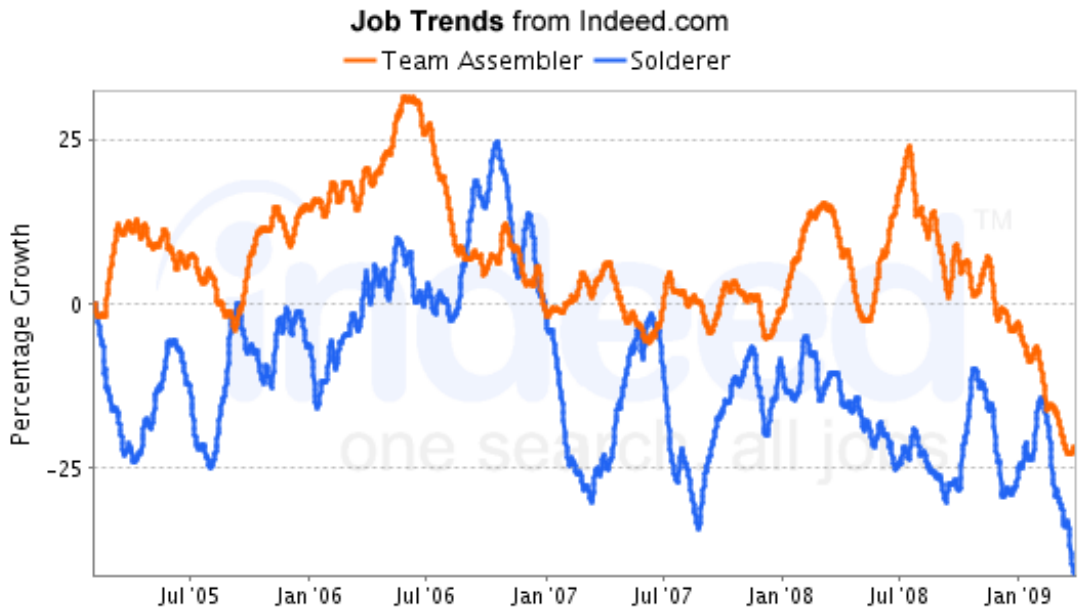
Description	Team Assemblers	Solderers and Brazers	Difference
Median Wage	$ 23,730	$ 38,030	$ 14,300
10th Percentile Wage	$ 18,550	$ 22,680	$ 4,130

25th Percentile Wage	N/A	N/A	N/A
75th Percentile Wage	$ 28,380	$ 46,190	$ 17,810
90th Percentile Wage	$ 32,810	$ 50,780	$ 17,970
Mean Wage	$ 25,040	$ 38,260	$ 13,220
Total Employment - 2007	3,850	1,610	-2,240
Employment Base - 2006	3,958	1,691	-2,267
Projected Employment - 2016	3,691	1,816	-1,875
Projected Job Growth - 2006-2016	-6.7 %	7.4 %	14.1 %
Projected Annual Openings - 2006-2016	82	49	-33

National Job Posting Trends

Trend for Team Assemblers

Trend for Solderers and Brazers



Data from Indeed

Recommended Programs

Welder/Welding Technologist

Welding Technology/Welder. A program that prepares individuals to apply technical knowledge and skills to join or cut metal surfaces. Includes instruction in arc welding, resistance welding, brazing and soldering, cutting, high-energy beam welding and cutting, solid state welding, ferrous and non-ferrous materials, oxidation-reduction reactions, welding metallurgy, welding processes and heat treating, structural design, safety, and applicable codes and standards.

Institution	Address	City	URL
Eastern Maine Community College	354 Hogan Rd	Bangor	www.emcc.edu
Eastern Maine Community College	354 Hogan Rd	Bangor	www.emcc.edu
Eastern Maine Community College	354 Hogan Rd	Bangor	www.emcc.edu

Wasington County Community College	One College Drive	Calais	www.wccc.me.edu

Maine Statewide Promotion Opportunities for Team Assemblers

O*NET Code	Title	Grand TORQ	Job Zone	Employment	Median Wage	Difference	Growth	Annual Job Openings
51-2092.00	Team Assemblers	100	2	3,850	$23,730.00	$0.00	-7%	82
51-4121.07	Solderers and Brazers	89	2	1,610	$38,030.00	$14,300.00	7%	49
51-2021.00	Coil Winders, Tapers, and Finishers	89	2	90	$31,910.00	$8,180.00	-53%	1
51-9061.00	Inspectors, Testers, Sorters, Samplers, and Weighers	87	2	1,700	$29,700.00	$5,970.00	-14%	26
51-2031.00	Engine and Other Machine Assemblers	87	3	20	$29,010.00	$5,280.00	-45%	1
51-9196.00	Paper Goods Machine Setters, Operators, and Tenders	87	2	910	$38,230.00	$14,500.00	-26%	23
51-7041.00	Sawing Machine Setters, Operators, and Tenders, Wood	87	2	700	$24,790.00	$1,060.00	-8%	15
53-7063.00	Machine Feeders and Offbearers	86	1	480	$26,820.00	$3,090.00	-22%	9
51-4121.06	Welders, Cutters, and Welder Fitters	86	2	1,610	$38,030.00	$14,300.00	7%	49
51-9032.00	Cutting and Slicing Machine Setters, Operators, and Tenders	86	2	710	$31,350.00	$7,620.00	-23%	12
51-2023.00	Electromechanical Equipment Assemblers	85	3	90	$26,430.00	$2,700.00	-20%	2
51-4022.00	Forging Machine Setters, Operators, and Tenders, Metal and Plastic	85	2	20	$28,330.00	$4,600.00	-18%	1
51-9195.07	Molding and Casting Workers	85	2	0	$26,980.00	$3,250.00	7%	20
51-4032.00	Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic	84	2	100	$33,030.00	$9,300.00	-22%	2

51-4122.00	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	84	2	120	$36,960.00	$13,230.00	2%	3

Top Industries for Solderers and Brazers

Industry	NAICS	% in Industry	Employment	Projected Employment	% Change
Architectural and structural metals manufacturing	332300	11.33%	46,347	52,658	13.62%
Agriculture, construction, and mining machinery manufacturing	333100	6.36%	26,009	25,834	-0.67%
Self-employed workers, primary job	000601	5.26%	21,505	24,372	13.33%
Motor vehicle body and trailer manufacturing	336200	5.12%	20,924	21,779	4.09%
Commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance	811300	4.38%	17,916	20,168	12.57%
Other general purpose machinery manufacturing	333900	3.83%	15,672	15,050	-3.97%
Boiler, tank, and shipping container manufacturing	332400	3.10%	12,686	12,161	-4.14%
Motor vehicle parts manufacturing	336300	3.03%	12,410	10,511	-15.31%
Machine shops	332710	3.03%	12,381	10,895	-12.00%
Other fabricated metal product manufacturing	332900	2.73%	11,163	10,522	-5.74%
Employment services	561300	2.58%	10,544	14,196	34.64%
Ship and boat building	336600	2.51%	10,285	12,246	19.07%
Ventilation, heating, air-conditioning, and commercial refrigeration equipment manufacturing	333400	2.39%	9,762	9,553	-2.14%
Nonresidential building construction	236200	2.03%	8,323	9,921	19.20%
Industrial machinery manufacturing	333200	1.31%	5,341	4,655	-12.85%

Top Industries for Team Assemblers

Industry	NAICS	% in Industry	Employment	Projected Employment	% Change
Employment services	561300	15.68%	199,847	252,932	26.56%
Motor vehicle parts manufacturing	336300	7.79%	99,321	80,278	-19.17%
Motor vehicle manufacturing	336100	4.50%	57,395	57,191	-0.35%
Other wood product manufacturing	321900	3.65%	46,477	43,797	-5.77%
Motor vehicle body and trailer manufacturing	336200	3.47%	44,237	44,350	0.25%
Plastics product manufacturing	326100	3.40%	43,379	45,983	6.00%
Architectural and structural metals manufacturing	332300	2.80%	35,620	38,043	6.80%

Medical equipment and supplies manufacturing	339100	2.66%	33,860	34,635	2.29%
Other fabricated metal product manufacturing	332900	2.47%	31,442	27,859	-11.39%
Ventilation, heating, air-conditioning, and commercial refrigeration equipment manufacturing	333400	2.41%	30,715	28,255	-8.01%
Other general purpose machinery manufacturing	333900	2.36%	30,035	27,113	-9.73%
Navigational, measuring, electromedical, and control instruments manufacturing	334500	1.84%	23,417	22,419	-4.26%
Agriculture, construction, and mining machinery manufacturing	333100	1.79%	22,809	21,297	-6.63%
Household appliance manufacturing	335200	1.65%	21,088	15,957	-24.33%
Semiconductor and other electronic component manufacturing	334400	1.65%	21,011	18,365	-12.59%

